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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/673,373 | 09/30/2003 | Masashi Ohata | M&M-070-USA-P | 4381 |

7590 03/29/2004

Law Offices of Townsend & Banta
Suite 900, South Building
601 Pennsylvania Ave., N.W.
Washington, DC 20004

EXAMINER

HA, NGUYEN T

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2831 | |

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/673,373 | OHATA ET AL. | |
| | Examiner | Art Unit | |
| | Nguyen T Ha | 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0104</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimura et al. (US 3,898,539).

Regarding claim 1, Yoshimura et al. disclose a thin film solid electrolytic capacitor (figure 1) comprising: a pair of electrodes (valve metal & cathode), and a dielectric thin film (oxide dielectric film) and a solid electrolyte thin film (TCNQ salt) sandwiched between the electrodes, wherein the dielectric thin film is a metal oxide thin film (column 8, lines 22-25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2831

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (US 3,898,539) in view of Welty et al. (US 6,391,457).

Regarding claim 2, Yoshimura et al. disclose all the limitations discussed above with respect to claim 1, except for the thickness of the metal oxide thin film is from 1 to 100 nm.

Welty et al. teach a thickness of dielectric film having a thickness of 5 to 200 nm (column 4, lines 7-11, which is within a claimed range).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a dielectric film having a thickness in the claimed range~~s~~ as taught by Welty et al. in the capacitor of Yoshimura et al. in order to provide sufficient rigidity for supporting the film. DA 3/22/04

Regarding claim 3, the modified of Yoshimura et al. show all of the claimed features with respect to claim 1 in the above. **Welty et al. further teach** wherein the metal oxide thin film is a chromium oxide thin film (column 4, lines 35-39).

Regarding claim 4, the modified of Yoshimura et al. show all of the claimed features with respect to claim 1 in the above. **Welty et al. further teach** chromium

Art Unit: 2831

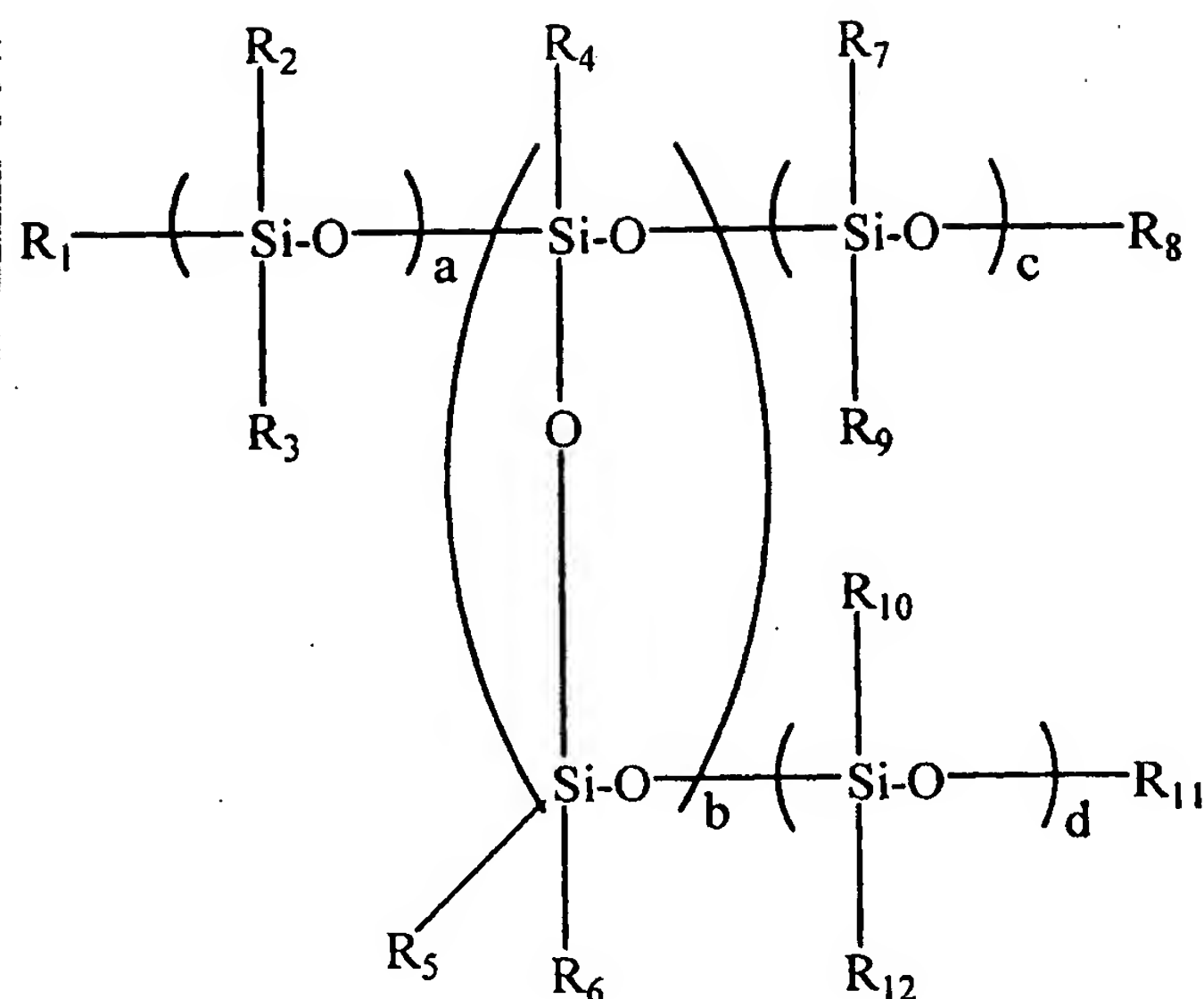
oxide thin film (column 4, lines 35-40). The limitation of a film obtained by subjecting a chromium nitrogen oxide thin film to heat treatment at a temperature of 400 to 800 °C ^{has} have been considered, however the presence process limitations in product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product. ***In re Stephens 145 USPQ 656 (CCPA 1965).***

Regarding claim 5, the limitation of the solid electrolyte thin film is a thin film obtained by firing a silicon-containing compound at a temperature of 200 °C or more ^{has} have been considered, however the presence process limitations in product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product. ***In re Stephens 145 USPQ 656 (CCPA 1965).***

Allowable Subject Matter

5. Claims 6-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 6-7, the prior art alone or in combination does not teach the limitation of a silicon-containing compound comprises at least one selected from a polysilane which is soluble in organic solvent and a silicone compound having a chemical structure represented by the general formula:



Wherein R1 to R12, which may be the same or different, are each of group selected from the group consisting of an aliphatic hydrocarbon which has 1 to 10 carbon atoms and may be substituted with a halogen or a glycidyloxy group, and aromatic hydrocarbon group having 6 to 12 carbon atoms, and an alkoxy group having 1 to 8 carbon atoms; $a + b + c + d \geq 1$.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T Ha whose telephone number is 571-272-1974. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext. 31. The fax phone

Art Unit: 2831

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen T. Ha
March 18, 2004


DEAN A. REICHARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800